

# Surface Geology

## Lone Butte SE Quadrangle, North Dakota

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### EXPLANATION

#### QUATERNARY SYSTEM

##### RECENT

##### OAHE FORMATION

**Qal** Alluvium  
Brownish gray to black sand, silt, clay, and lenses of gravel; flood-plain deposits along recent drainages. Includes lower terrace deposits.

##### RECENT/PLEISTOCENE

**Qls** Landslide Deposits  
Variable mixture of strata and deposits that have slid to the base of steep slopes. Typically rotational slump blocks.

#### TERTIARY SYSTEM

##### EOCENE/PALEOCENE

##### Tgv GOLDEN VALLEY FORMATION

**Camels Butte Member**  
Alternating beds of brown to grayish brown sandstone, siltstone, mudstone, claystone, and lignite.

**Bear Den Member**  
Brightly colored kaolinitic claystone, mudstone, and sandstone typically overlain by a thin silicious bed (silcrete) or lignite.


##### PALEOCENE

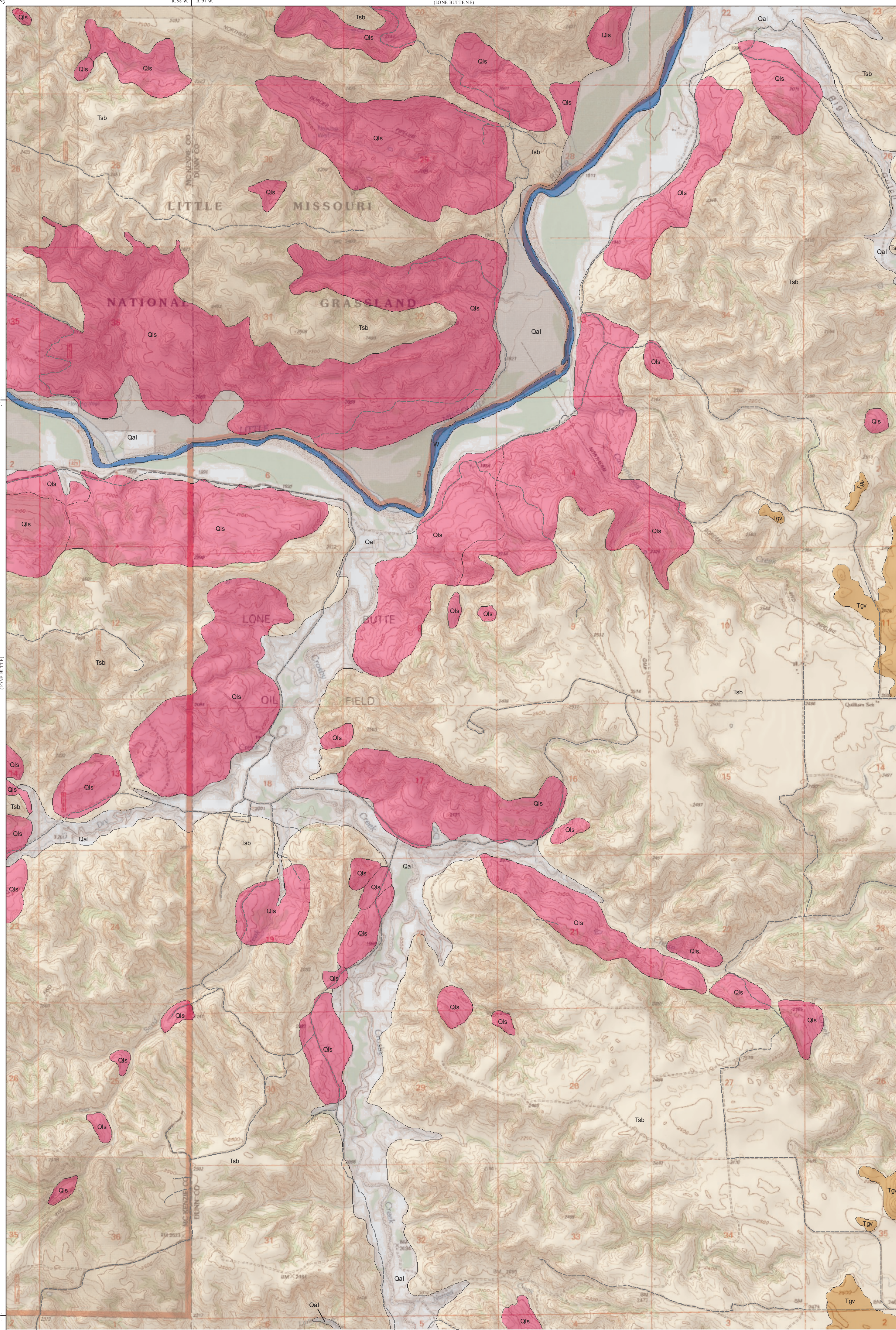
**Tsb** SENTINEL BUTTE FORMATION  
Alternating beds of grayish brown to gray sandstone, siltstone, mudstone, claystone, and lignite.

#### Geologic Symbols

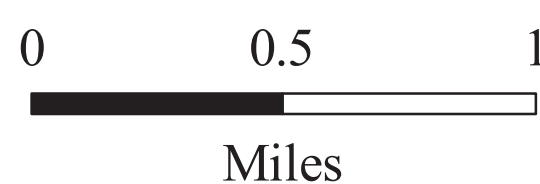
— Known contact between two geologic units.  
- - - - Approximate contact between two geologic units.

#### Other Features

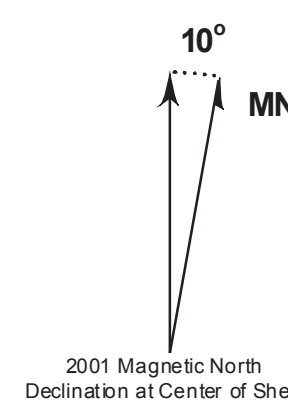
 Water  
- - - - Unpaved Road



Scale 1:24,000

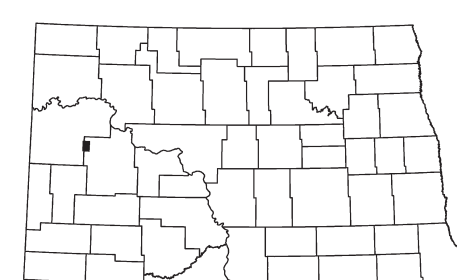
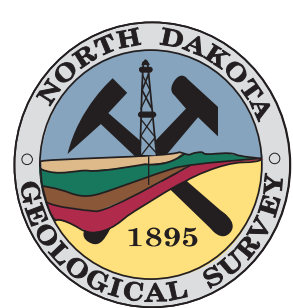


Miles  
Lambert Conformal Conic Projection Standard Parallels 47° 30' 00" and 47° 37' 30"  
1927 North American Datum NGVD 1929  
USGS 7.5 Minute Topographic Map Contour Interval 20 Feet  
Road Layer Rectified to 2003 NAIP Digital Orthophoto



This geologic map was funded in part by the USGS National Cooperative Geologic Mapping Program.

Cartographic Compilation: Elroy L. Kadmas



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